DOCUMENT RESUME

ED 178 431 SO 012 095

AUTHOR Hartoonian, H. Michael
TITLE Ethics and Education: Toward an Epistemology for Quality.
PUB DATE 2 Nov 79
NOTE 20p.; Paper prepared for the Biological Sciences Curriculum Study Symposium (Boulder, CO, November 2, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Change Strategies; Communication (Thought Transfer); Curriculum Development; Educational Needs; *Educational Quality; *Educational Theories; Elementary Secondary Education; *Ethical Instruction; *Ethics; *Language Role; *Thought Processes

ABSTRACT

The paper examines the role of ethics in the pursuit of educational quality. The nature of ethics, creation of knowledge, language, and the concept of quality are discussed. These ideas are blended into a new epistemology (theory of knowledge) which allows students to probe philosophical questions as part of the educational process. Ethics are discussed in terms of relationships among people, modes of conduct within a profession, and the moral principles of the cultural heritage of a society, community, or civilization. The examination of knowledge stresses that facts as well as theories are a creation of the mind and as such knowledge must always be seen as tentative. The author notes that language shapes the ethical framework of our communities and that linguistic models form our sense of reality. Language is an instrument we use to classify or dissect environments. He concludes that one must make explicit the ethical implications of the language we use, the institutions we build, and our interactions with man and nature. The discussion of quality centers around the levels of technique and artistry. The final section discusses curricular implications for a synthesis of ethics and education. Basic studies would include aesthetics, logic, and philosophic or reflective thinking processes which would be developed throughout the K-12 sequence. The studies would draw substance from all academic disciplines and would involve both in-school and community activities. (Author/KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED178431

ETHICS AND EDUCATION: TOWARD AN EPISTEMOLOGY FOR QUALITY*

by

H. Michael Hartoonian
Wisconsin Department of Public Instruction
Madison, Wisconsin

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

I wish that I could catch the wind,
And fly it to your side.
But, I'm on the road again,
Going nowhere.
Locked in technique,
And keeping to the plan,
I'm out of touch with myself.
One would think I'd know by now,
That meaning is not to be found in structures,
So much as in the freedom of Quality.

Michael Hartoonian

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
H. Michael Hartoonian
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

The task of developing a relationship between ethics and education seems somehow more important today than during any previous period of history. Perhaps, this is the case simply because we happen to be alive now, and because we feel the need for developing new questions. Perhaps, it is also the case because of the risks and potential that presently exist for the human family. Our capacity for good is completely matched by our capacity for evil and both have expanded greatly because of knowledge and technology. At a point in history when there is a desperate need for diverse, enlightened and powerful thinking, we have, for the most part, responded with regressive educational practices, which, in their ritualistic and politicized nature, point back to some precivilized dawn of the human family and certainly not to the potential of what we can and must become if homo sapiens are to survive. Human survival has become a function of our intellect. That is, if we cannot become better and wiser, we will surely die... not as individuals today, perhaps, but certainly as a species tomorrow.

SP 012 095

*Prepared for the Biological Sciences Curriculum Study Symposium, "Human Biology: A Key to Scientific Literacy." Boulder, Colorado, November 2, 1979

It is from this rather pessimistic view that we must begin our search for an epistemology that can combine education with ethics and can point us toward quality. This search should attend to the nature of ethics, the nature of knowledge creation, the nature of language, and to the concept of quality itself. An attempt will be made to blend these ideas into a proposal for a theory of knowledge (epistemology) that will address education's central task... attacking that ignorance which is most harmful to the human family. Emphasis will not be placed upon a call for more educational volume, as has been the case with so many other "utilitarian" efforts in education, from career education to sex education. What we don't need is more volume. What must be addressed is education's very content and purpose so that it might provide the substance and methodologies that will allow students to directly probe such questions as:

* How can we know if we are doing good?
* What obligations and sacrifices (personal and social) must we face for the sake of doing what is right?
* What changes in current philosophy are needed for survival?
* Can we tell the difference between the questions "what is right?" and "does it work"?

Let us look briefly at ethics, knowledge, linguistics and quality as prologue to the probe for a new epistemology.

Ethics

Ethics have to do with the relationships that exist between and among people, with the modes of conduct that exist within a profession, and with the moral principles of the cultural heritage to which a society, civilization or community makes reference. Ethics also have to do with perspective... our ability to transcend our present situation and find references across time and place. What is noteworthy in this definition is the reference to moral principles. These principles might be studied in at least two different ways which, by the way, are not mutually exclusive. First of all, we can speak of principled moral reasoning.

In principled moral reasoning, students must attend to the consistency of moral principles used from one situation to the next; the generalizability of moral principles beyond a single society; the competency to transcend some attributes of law, custom and religion; the understanding of rightful behavior; and, of course, to know logic, rhetoric and analogical argumentation. These attributes should allow students to put behind them the tendency of living with relativistic moral values as well as to judge the worth (value) of educational, political, economic and social policies.

Second of all, we can study ethics as perspective gained over time... shining the light of history as well as the light from the future, as it were, upon those of us who are alive today. Ethics are the sparks that link the past and future... like a synape filled with impulse and feelings that jump from one generation to another. Of course, looking back and ahead across generations is at best a risky business. Things are always interpreted in terms of the present. We say that we understand the past and future... hold it up for inspection. Wisdom, however, comes when we allow the past and the future to understand us... when they hold us up for inspection. To see ourselves in this light is to illuminate moral principles. It is this light which makes us accountable to the people, ideas and ideals of the past and accountable, also, to the yet to be born citizens of the future... this is the wellspring of perspective.

Ethics, then, can be studied as descriptive, empirical inquiry (including attention to analytical or meta-ethical thinking); and/or as normative thinking that transcends a particular time and place.

Knowledge Creation

Knowledge, as we have come to understand it in "scientific" terms, includes facts, concepts, generalizations and theories. There is also a general implicit notion that this knowledge stems from empirical observations. Thus, we see facts, test them, and go on to build theory. Item: It was once a fact that the earth

was at the center of the universe. Item: It was once a fact that the earth was flat. While we smile at the nature of these "facts," we are now also smiling about the scientific facts that emerged from the enlightment and the modern scientific era. For example, 25 years ago, few would have argued about the validity of "Newtonian" physics. In the light of history, we must come to realize and to teach that facts as well as theories are not simply extracted from empirical data ...they are the creation of the mind! On the other hand, theories (knowledge) are not arbitrary inventions, as they must meet a variety of conditions to be "satisfactory." The point of importance, however, is that knowledge must always be seen as "tentative."

This notion of tentativeness may seem antithetical to the discussion of ethics above, but the spark between creation and established conditions is always an organic one... changing with the flow of new energy and insight. The relationship between knowledge (scientific) and ethics is indeed a close one.

We should be clear in our understanding that the theories we create become the paradigms which, in turn, shape our vision of "reality" and influence our potential for growth. These frameworks or paradigms are always incomplete (and tentative), but they do provide us, for a time, with a means for order and meaning. These frameworks are, in essence, the techniques or tools we use to ask and answer questions about our environment, ourselves and others. These techniques and tools protect and victimize us all. We are protected and victimized by our medicines, our tools, our languages, our laws and our beliefs. The nature of knowledge (scientific insights) which develop from any given paradigm is shaped by the lenses of social context and sense-data interpretation integral to that paradigm. Hence, world-view elaborations obtained are true or accurate largely within the context of the closed system of that paradigm itself. These "scientific" frameworks, paradigms or world views provide a structure which gives us both a spiritual unity of essence and an imaginative sense of configuration from which

all thoughts and consequence behavior arise. This makes of our techniques statements of morality, as well as statements of cognition.

Statements of cognition, then, must be seen as positions on morality. And within the structures of knowledge we should ask if the theories we have created respect the value concepts imbedded therein. If, for example, we express a value for individual worth and dignity as a value/moral concept in education but build educational establishments on psychological theories of behavior modification or military theories of line/staff organization, without real attention to the moral concepts at issue, then said concept will stand a good chance of becoming reduced or destroyed.

Language

One can make the argument that our language shapes us... who we are and how we see the world. While it may be the case that thought and speech have different genetic roots (Vygotsky, 1974) it is clear that language and thought are mutually interactive, that is, they reinforce each other. What is important to consider here, however, is that language (and that part of language we call external speech) is primarily a social enterprise and as such carries with it ethical implications. Language, as the dwelling place for our ideas, shapes the ethical framework of our communities.

Linguistic models* lock us into a certain mental space and this space becomes, to a large degree, reality or what might be called the scope and sequence of our social discourse, complete with moral persuasions.

Reality rests upon two foundations that are related, radically different, and powerful in their pervasiveness. In one the base is provided by symbolic processes, the best example of which, of course, is language. The other base is provided by the adaptation of people to their physical, biotic and social environments through

*See Appendix A.

the use of organizational and technical developments. The former asserts that words we use shape the ideas and guide our mental activities. Words are not simply the instruments for voicing ideas, but the intellectual framework from which thought cannot long escape. In other words, language is an instrument which we use to dissect or classify environments. These sets (our present reality), in turn, form a conceptual framework for discovering new realities. As stated above, speech and thought are different concepts, but they meet and join, separate, and join again throughout life, and must be viewed together, if we intend to study the social world. The world presents an array of impressions which we organize in our minds, and communicate via our linguistic system. We cut nature up, organize it into concepts and theories and place importance upon these categories largely because we are part of the society that agrees to organize it in this way. The agreement holds throughout our linguistic society and is codified in the way we talk. The agreement is unstated, implicit and pervasive, but its terms are absolutely mandatory... that is, if we want to communicate we must accept the organization and classification scheme that has social agreement and, I might add, the force of ethics and law. Educationally speaking, this foundation of reality is significant for it means that no individual is free to describe phenomena with ojective impartiality, but must stay within certain frameworks.

The latter reality foundation, that of organizational and technical developments, calls attention to another dwelling for the human mind and spirit. Out of this base stem the institutional standards that form our social deep structure which accounts for such phenomena as economic functionalism and bureaucracy. It posits, relative to formal education, that teacher (school) action is a function of institutional ideology; that school environment is a function of the technological development of the larger society; and that the knowledge which each student acquires is a function of the community's view of how the distribution of culture should be made.

Together language and organization/technical developments provide the framework for our perceptions. And in a sense this framework is hidden, but perhaps it is hidden only because it is so obvious... we look by it with such ease... to our own realities.

While language in conjunction with organizational and technical developments buttresses our sense of reality, the concern here is with the ethical relationships between these phenomena and social discourse, social action and education.

Why should we study the ethical links between language and our institutional standards on the one hand, and social discourse and/or social action on the other? This might be answered by a rhetorical question: "Isn't it pointless to know how to do something, to build something for getting something done, or to teach children without having any idea about whether or not it is worth doing?" Without consideration of this point we reduce ourselves to the absurd possibility of doing that which we are able to do for the inane reason that we are able to do it. To just do something, of course, is mindlessness at its best. It is the unexamined life. But we cannot deal with this kind of mindlessness unless and until we at least bring ethics into consideration, for ethics can speak to the social worth of something. And not simply to consider ethics, but to make explicit the ethical implications in the language we use, the institutions we build and the actions we have with one another and with nature.

First of all, we should add to our definition of ethics, stated above, the notion that when it is applied (in any democratic social setting) we must take account of ethical parity, that is, the sharing of responsibility and political power. All actors must be accounted for in the sense that each one shares power and responsibility... for no other reason than that he or she is human. Further, we must understand that power and responsibility should vary directly... or there can be no ethical community. This also helps us to understand that both power and powerlessness corrupt. Thus, we must work to keep power and responsibility balanced.

Next, it would be useful to look allegorically at the language components of syntax, phonology, morphology and semantics and their relationship here to any social study. These items of meta-language speak to order, sound, form and meaning and make up the essence of communication. These components also suggest an interesting insight into institutional standards, social discourse and action. Institutional standards speak to rules, beauty (or lack thereof), structure and goals (purposes). These same factors are operational as people act out their lives. What is interesting here is the similarity in meta-language factors and those factors we use to investigate social phenomena. Social phenomena can be studied in terms of order (syntax), beauty (phonology), form (morphology), and function and purpose (semantics). We do have a way of studying meta-language... it has been going on for years... although its study relative to pedagogy is rare. We have, on the other hand, only begun to scratch the surface in formulating an epistemology that would account for "quality in knowledge," knowledge of institutional standards, social discourse, and social action. This would mean, for example, that social research would address ethics or social justice as well as order or social processes. It would deal with aesthetics as well as social institutions. Education would, thus, be incomplete without attention to all four components. As we study any social phenomenon, we would concern ourselves with principles of ethics, social processes/systems, aesthetics and structures.

The knowledge fields which need to be traversed in the creation of any epistemology* for quality, should indeed, be those areas where we can begin to investigate and understand language and ethics in relationship to social institutions, action and purposes. Of course, we must realize that extending the area of study in this way to suggest a new epistemology, also means that we may find ourselves treating ourselves once again as objects rather than as conditions of potential (Foucault,

*The study of the nature, limits and validity of knowledge.

1970). Thus, if we are not careful we may fail to see the difference between object and subject. These objects of study, namely ourselves, will then seem as shadows devoid of human fullness. This problem of subject-object delineation is far more serious than, for example, thinking that the map is reality in geography, that is, not making a distinction between map and land. It suggests that human study... study of institutional standards, social discourse and social action... exists not wherever and whenever human beings are in question, but when analysis unveils to consciousness the conditions of form, meaning, beauty and purpose. And without this consciousness ethical study will not take its rightful place in education.

Quality

Quality is a difficult notion to discuss for it defies definition. Unlike terms such as gross national product or social class, "quality," like the conceptions of love or justice, is a disclosure. That is, it cannot be defined or measured directly. It can only be understood through metaphor.

There is a "quality" that most of us try to define, however, and that is, "quality of life." But we really cannot define this quality either. All we can do is suggest that there are certain factors of quality like justice, love, truth, beauty, and faith. And, there are techniques that form a foundation for these factors... techniques which are necessary but not sufficient in bringing quality to life. These include such things as jurisprudence or research processes.

For example, the pursuit of truth can be aided by the processes of research. Appeals to authority... to logic... to aesthestics... can all help in this pursuit. And, truth, which itself is undefinable, can be instrumental to quality. Quality is, in essence, three levels removed from our ability to define and measure. At the first level are the techniques of research, jurisprudence, etc. which are wrapped in individual craft and artistry. For example, have you ever observed a "good" mechanic relative to his or her work? The good ones seem to know what's

wrong with your car by listening. I once knew a mechanic who would work at tuning a car and before he was satisfied would kneel behind the car and listen to the "music" of the tailpipe. For what? My guess is that he was searching for quality.

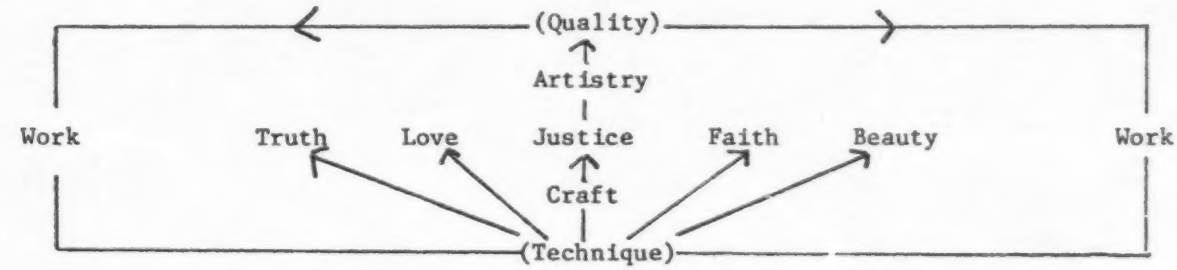
His technique approached artistry in the sense that his craft was unique, he understood the total system of auto mechanics and he had a conception of "good" work. Ever try to measure good work? Yet we all know it when we see or hear it!

At the second level are values such as justice which individuals consider in their everyday decision-making. We see this in the teacher who can be fair with all students. Fair in the sense of offering students: equal opportunity; due process and equal protection. The teacher doesn't treat all students the same, but has a conception of the "good" teacher as one who makes sure there is opportunity for all. This means making sure that every student has a role to play in the drama of the classroom. This means making sure that the time and resources allocated to a student are consistent with that student's personal investment and abilities. This means that students are made aware of the responsibility to learn and not simply their right to learn. Equal opportunity is a sharing of knowledge, trust and communication within the classroom and school that denies no one the chance to progress and grow as far as possible. The just teacher is willing to foster opportunity for the individual, and while these items of opportunity cited above might be enumerated, they can never be related in any linear way to add up to the just society, be that society a classroom, school or community. Yet we all know a just classroom when we see one.

Due process in the classroom and in school, as in the larger democratic community, speaks to the infringement on individual rights by the whims of the few or the weight of the majority. It lays out in plain view the steps that must be taken before an individual or group can be made to feel the burden of the law. The just teacher not only understands due process, but makes sure the students also understand it.

The question of equal protection as practiced by the good teacher means that all students will be shielded from the inequalities of the community and school. Further, the teacher will understand that he or she can be the most serious instrument for protection and/or nonprotection and will act accordingly. Have you ever measured the protection that a teacher gives to students? Yet we have all seen it.

At the third level is quality itself. It is undefinable, yet we all see, hear and know it. The path to quality is paved with the values of justice, love, truth, etc. and the techniques and individual craftsmanship that distinguish good work from the other kind. Quality exists in the classroom when the values* of justice, love, truth, beauty and faith are employed. These values in turn are developed by the techniques used by educators to insure a just classroom; a classroom where truth is pursued; where there is beauty; faith and love.



The relationship between quality and technique is direct and meaningful if it flows through justice, truth, etc. For example, the chart above suggests a relationship between these two notions that will cause both to grow. The diagram also suggests a sort of fountain where technique is nurtured by the flow of quality work, which, in turn, leads to craft and when applied with the pursuit of truth, love, justice, etc. artistry results. Artistry means a unity and order provided by the human imagination linked to methodological competence. This artistry, then, allows quality to flow in ever more abundant torrents. While all

* See Appendix B.

items in the drawing are beyond measurement and definition, quality is manifested in work which is what students and teachers are learning and doing. We should not, however, place undue emphasis on the so-called work behaviors or the simple movements that are observed when people do "work." It is extremely important to remember that work is the result of a long period of habit and insight into the nature of quality... at least good work is. The real point of teaching and learning should be not so much a question of understanding work as so many movements, or like so many rows of corn to hoe, but on the nature of the relationships among technique, craft and artistry on the one hand and their interaction with truth, love, justice, faith and beauty on the other. These relationships rest upon the human desire and effort to become better.

To be good at something one must know technique. But to be better one must go beyond technique... to artistry. This means that technique becomes a part of the unconscious mind and the individual becomes an artist complete with grace, beauty and truth. This is quality. Quality will, in turn, make technique better... and so we grow!

This pattern and movement toward quality is the seedbed of wisdom. It also represents a new kind of fitness which is needed for the survival of this planet.

Toward an Epistemology for Quality

Epistemology deals with the questions of:

What is knowledge?
How do we come to know X?
What does it mean to know?

In education, these questions must also take account of the child and his or her contact with knowledge as a formal, visible phenomenon, and as something which is informal and hidden.

How can we move toward an epistemology for quality in education?

It is this question that points again toward ethics and education and to a consideration of meta-language and human/nature studies. We must begin to go beyond

the study of individual academic disciplines, which tend to raise no new questions relative to the human condition, toward a construct which will explicitly address the conditions of form, meaning, beauty and purpose. This would mean a direct study of these conditions. Indeed, education would be defined in terms of justice, beauty, form and meaning in human discourse and in the interactions among people and between people and nature.

Education would address communication; that is, the ability to speak to and understand the cultural heritage, other contemporary world citizens, and nature. But a serious impediment now seems to block communication. That impediment, however, is not language per se, but rather the "structures of reasoning" or meta-knowledge implicit in language (Maruyama, 1974). If people remain unaware that they are using different structures of reasoning, but are only aware of the fact that they are having difficulties communicating, each party will tend to perceive the communication difficulty as resulting from the other party's being illogical, unethical, insincere, insensitive or stupid. Or, one or the other "communicator" may fall into the illusion of understanding while being unaware of his or her misunderstanding. This will lead to our saying, "I understand you, but why can't you understand me?"

But are these "structures of reasoning?"

Basically, they are meta-knowledge constructs. They are the paradigms or conceptual frameworks which we use to see and understand the world. They are the keys to our reality... the underlying structures of our thought patterns. These structures of reasoning are cultural universals in the sense that all people have meta-knowledge constructs but they are also culture specific, and sub-culture specific in the sense that we all carry our own structures of reasoning or paradigms as the basis for our communications with others. In essence, then, there are personal paradigms constructed from elements of general and specific cultural attributes. The general components or attributes include attention to ethics,

aesthetics, logic, and reflective thought... the base for paradigm development... and a study of these general items can provide an understanding of our specific reasoning patterns and moral persuasions. For example, we will find a "logic" in all cultures and/or subcultures. Knowing this, we can then determine if the logic is empirical or deductive, linear or spherical, competitive or harmonistic. This information, together with direct knowledge about aesthetics and ethics will allow for some insight into the philosophic thought processes being used and should, in turn, provide a means for better communications and all that that implies. This is not only important for cross-cultural communication, but for communicating across professions, disciplines, or political parties. It is at this point that an epistemology for quality (education) can be developed. For as individuals look into the structures of reasoning or paradigmatic differences that shape people's sense of reality, they will have the opportunity for more meaningful communication. For example, any psychological hypothesis would carry with it (into testing) questions of morality, beauty and form, as well as explanation. Another example might have us look at the way words are selected for use in newspaper headlines. Newspapers can create certain ethical, definitional and aesthetic emphases through which both writer and reader could see explicitly the "hidden curriculum" of social discourse and social action.

With these factors in mind, the curricular contours for a synthesis of ethics and education can be drawn. First of all, the rationale of such a curriculum would rest upon the importance of communication, including structures of reasoning in decision making. It would emphasize cultural perspectives of time and place, as well as the aesthetic balance of nature and culture necessary for <u>human</u> existence.

Next, the major knowledge (including skill and affect) components would include in addition to ethics; aesthetics, logic, and philosophic or reflective thinking processes. These areas of study would be introduced in kindergarten and developed throughout the K-12 sequence. These basic studies would draw substance

and examples from all academic disciplines.* Content organizers could be developed in each grade level taking particular note of time (past, present and future) and place (world-wide and planetary) perspectives. Skill sequences would be incorporated into all three of the content organizers and would deal with items from reading (in content areas) to social mathematics (sampling, randomness, ratio numbers, etc.).

Finally, the instructional component would emphasize both inschool and community activities. On the one hand, there would be time away from society for students to turn ideas over in their minds and to engage in such "irrelevant" topics as medieval architecture and space colonization. In this phase of instruction there would be a sort of "de-societizing of school" so students would be more free to develop time and place perspectives. On the other hand there would be opportunities for direct involvement with community people and issues both on a world wide basis and in the immediate community.

This brief outline then argues for making explicit the human structures of reasoning and their linguistic and ethical underpinnings. This is particularly important if we see communication as fundamental to human survival. The historical, biological and ecological "facts" of today have constructed a spiritual path for us, and we must find our way along that path by paying particular attention to the systems, cycles and stories of the human family. This wisdom must then be used (education) in creative new ways so that we may yet seek out and combat that ignorance which is most harmful to human survival while at the same time sharing with students that store of respect and full measure of equal consideration made logically unavoidable by the knowledge that they will live in the future without us. Therefore, the best we can do is to develop <u>with</u> them a sense of perspective.

*It is possible to include all academic areas in this role, i.e., mathematics, natural sciences, social sciences, history, literature, languages and the arts.

For ethics and education, above all, address perspective... a view of time (past, present and future), place, culture and nature that transcends our brief moment here and gives us all the criteria for Quality.

REFERENCES

Allport, Gordon W., et.al. A Study of Values. New York: Houghton Mifflin, 1951.

Black, Max. Models and Metaphor: Studies in Language and Philosophy. Ithaca, New York: Cornell University Press, 1962.

Burtt, Edwin A. In Search of Philosophic Understanding. New York: New American Library, 1967.

Cassirer, Ernst. Philosophy of Symbolic Forms, Vol I-III. New Haven: Yale University Press, 1966.

Combs, A.W. and D. Snygg. Individual Behavior: A Perceptual Approach to Behavior. New York: Harper and Brothers, 1959.

Hartoonian, H. Michael, "A Disclosure Approach to Value Analysis" in Theory and Research in Social Education, Volume 1, no. 1, October 1973, pp. 1-25.

Kuhn, Alfred. The Study of Society: A Unified Approach. Homewood, Illinois: Irwin, 1963.

Kuhn, Thomas S. Structure of Scientific Revolutions. Chicago: University of Chicago Press, 1970.

Langer, Suzanne. Philosophy in a New Key. New York: New American Library, 1966.

Mandelbaunn, Maurice. "A Note on History as Narrative." History and Theory, No. 6. Middleton, Connecticut: Wesleyan University Press, 1967.

Maruyama, Magoroh, "Paradigms and Communication," in Technology Forecasting and Social Change, (6, 1974), p. 3-32.

Mueller, Max. Cited in Ernst Cassirer. The Philosophy of Symbolic Forms. Vol. II: Mythical Thought. New Haven: Yale University Press, 1955.

Mueller, Herbert J. "A Note on Methods of Analysis." The Limits of Language. Walker Gibson, ed., New York: Hill and Wang, 1962.

Piaget, Jean. The Language and Thought of the Child. New York: World Publishing Company, 1955.

Ramsey, Ian. Models and Mystery. New York: Oxford University Press, 1964.

Salk, Jonas, "Wisdom - A New Kind of Fitness", in Science and Society: Knowing, Teaching, Learning, Cheryl Charles and Bob Samples, Eds., National Council for the Social Studies, 1978.

Thoreau, Henry David. The Portable Thoreau, Carl Bode, ed. New York: Viking Press, 1947.

Vygotsky, L.S., Thought and Language. The MIT Press, Massachusetts Institute of Technology, Massachusetts, 1974, p. 33-51.

Winch, Peter. Idea of a Social Science and Its Relation to Philosophy. Studies of Philosophical/Psychology Series, Humanities Press, 1970.

This phenomenon is easy to witness in the speech patterns (and behavior) of educations. Some of the more obvious linguistic patterns used in education are:

THE MEDICAL MODEL

Within this model, for example, reading is taught in a reading clinic, where students are diagnosed and lessons are prescribed. Is it also the case where students are perceived as patients who are sick and in need of treatment? In some institutions students are actually given drugs and are put in isolation carrels. Is this a school or a hospital?

THE FACTORY MODEL

In this model educators talk of input, output, productivity, surplus, efficiency, plant site, cost controls and products. They tend to ask questions that a factory owner raises, namely: (1) What kind of product do we want? (2) What kind of process will produce this product (and at what cost)? (3) How much of this product will be produced? (4) For whom is the product produced?

THE MILITARY MODEL

In this situation line and staff organizational charts are important. We talk of developing or reaching certain objectives; we engage in one-way communications; and we argue that policy decisions should be made from the top down. Here objectives are clear, clearly stated and reachable. The military mindset does not look for aesthetics or quality, just results. Aesthetics, quality and even efficienty are okay, but results come first. Without victory there is nothing. Armies and navies and perhaps schools tend to waste resources when following this model. This situation is not intentional but simply comes with an over-emphasis upon results. The individual, the equipment, and the supplies are only instrumental to a larger end.

APPENDIX B

JUSTICE

Justice has to do with what is fair. It speaks to the quality of rightness as right and wrong are understood in the heritage of people. Justice also means impartiality and the quality of being righteous.

MEANING

Meaning has to do with significance, import, purpose and sense of living. We strive for meaning in all we do, building upon our understanding of personal conduct and/or our personal goals. Meaning is reflected in how we live.

FAITH

Faith deals with consistency and trustworthiness in self and others. It also means loyalty to a belief or belief system. Faith speaks most directly to hope and primarily hope for, or in, the future.

TRUTH

Truth has two general sources. First of all, there is that which is consistent with established or verified facts, principles, or theories. Second, there is that which cannot be factually verified but is part of the human experience and is expressed in feelings and art.

BEAUTY

Beauty is a quality of form, function, color, line, texture, proportion, rhythm, sound, motion, behavior or attitude that relates to standards of excellence established by human heritage.

WORK

Work has to do with the craftsmanship of producing a good or service for self or others. Work is the means through which individuals can explore meaning, beauty and truth in their everyday lives.

LOVE

Love is that quality of being human that addresses affection and attachment among and between people. Love also speaks to the equilibrium of relationships between individuals and their environment.